

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Tronox LLC
P.O. Box 55
Henderson, NV 89009

Permit Number: NV0000078

Location: 8000 W. Lake Mead Dr.
Henderson, NV 89015 (Clark County)
Latitude: 36° 02' 32" N
Longitude: 114° 59' 59" W
(Latitude/Longitude at Tronox Office)
Township 22S; Range 62E; Sections 12-13

General Facility Description:

The Permittee operates an electrochemical manufacturing facility located in the Henderson, Nevada Industrial Area, i.e., Black Mountain Industrial (BMI) Complex. Tronox LLC (Tronox) manufactures manganese dioxide (component of alkaline batteries), elemental boron and boron trichloride (chemical used in the pharmaceutical industry). Historically, Tronox (as Kerr-McGee Chemical LLC) additionally manufactured a number of chlorate and perchlorate based compounds including ammonium perchlorate. Ammonium perchlorate has a number of uses including its use as an oxidizer in solid rocket propellant for aerospace and military applications. Perchlorate production ceased at this facility in July 1998 and the perchlorate production equipment was decommissioned and dismantled by March 2002. The former Kerr-McGee Chemical LLC was separated from its parent firm and renamed as Tronox LLC in late 2005. Neighboring facilities within BMI include Pioneer Americas LLC, Titanium Metals Corp. (TIMET), Chem Star, and Saguaro Power Co.

The Permittee has submitted a complete application for the renewal of National Pollutant Discharge Elimination System (NPDES) Permit #NV0000078. The Division is proposing that the permit be issued (renewed) for a five-year period. The discharges covered by this NPDES permit include only non-process, once-through cooling water, stormwater runoff, and pipeline leakage from the Lake Mead water supply. The BMI Complex is supplied with raw Lake Mead water for its processing needs and also for cooling supply purposes, i.e., single-pass non-contact cooling. The water supply pipeline in the BMI Complex is approximately 60 years old and numerous leaks occur due to the physical condition of the miles of pipeline running throughout the complex. The only discharges allowed under this proposed NPDES permit are stormwater and raw Lake Mead water, i.e., pipe leakage and once through, non-contact cooling water. No process water discharges are allowed under this permit.

Description of Outfalls:

Outfall 001 includes non-process, once-through cooling water, Lake Mead water supply pipeline leakage, and stormwater runoff. The Outfall 001 storm sewer collection system services the area outside of Units #1-3, the western half of Unit #4, and the access road to the Plant Administration Building. Outfall 001 is monitored inside a storm sewer manhole. Discharge from Outfall 001 is conveyed to the Tronox portion of the Beta Ditch,

which then flows overland to the Las Vegas Wash.

Outfall 002 also includes non-process, once-through cooling water, Lake Mead water supply pipeline leakage, and stormwater runoff. The Outfall 002 storm sewer collection system services the area outside of the eastern half of Unit #4 and Units #5-6. Outfall 002 is monitored inside its own storm sewer manhole, separate from Outfall 001. Discharge from Outfall 002 is also conveyed in the Tronox portion of the Beta Ditch, which then flows overland to the Las Vegas Wash.

Outfall 003 is comprised only of stormwater runoff collected from the manganese dioxide tails storage area. Since this area is bermed, only an exceptional precipitation event would generate sufficient runoff to transfer storm flow to the Tronox portion of the Beta Ditch, and subsequently to the Las Vegas Wash. In most cases, precipitation falling upon the tails area percolates into the ground surface and no storm runoff is discharged. From January 2005 through June 2006 there were no reported discharges of storm runoff from Outfall 003.

In 2005, Tronox reported total annual discharges to the Las Vegas Wash of 3.07 million gallons (MG) of non-stormwater discharges and 135 MG of stormwater discharges. According to Tronox's Discharge Monitoring Reports, the non-stormwater discharges were comprised mainly of leakage from the Lake Mead raw water supply pipeline. Precipitation in Henderson, Nevada is estimated to be approximately 4.25 inches/year (Western Regional Climate Center-Desert Research Institute) so stormwater runoff events occur only intermittently.

Discharges from Outfalls 001, 002 and 003 merge with flow from other BMI facilities. Similar to Tronox, these discharges are comprised of stormwater, non-process, once-through cooling water, and Lake Mead water supply pipeline leakage. As the flow exits the eastern side of the Tronox facility it then travels in a northwesterly direction ultimately reaching the Las Vegas Wash. The total length of conveyance of water discharged from Tronox to the Las Vegas Wash is approximately 3.0 miles.

Receiving Water Characteristics:

Outfalls 001, 002 and 003 ultimately combine with waters of the Las Vegas Wash. The beneficial uses of the Las Vegas Wash from Telephone Line Road to the confluence of discharges from City of Las Vegas and Clark County wastewater treatment plants, as designated in Nevada Administrative Code (NAC) 445A.198, are propagation of aquatic life, excluding fish; propagation of wildlife; recreation not involving contact with water; maintenance of a fresh water marsh; irrigation; and watering of livestock. Water quality standards for the upper Las Vegas Wash are specified in (NAC) 445A.199.

Procedures for Public Comment:

Notice of the Division's intent to issue (renew) an NPDES permit authorizing the facility to discharge to the surface waters of the State of Nevada subject to the conditions contained within the permit is being sent to the **Henderson Home News** and **Las Vegas Review-Journal** newspapers for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. The deadline at the Division for receipt of all comments pertaining to this public notice period is **5:00 PM on January 15, 2007**.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any

affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue (renew) the proposed permit for a period of five (5) years.

Proposed Effluent Limitations, Schedule of Compliance and Special Conditions:

Outfall 001: Non-Stormwater Discharges

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, gallons ¹	Monitor & Report		Continuous	Recorder
pH	Between 6.5 to 9.0 Standard Units		Once/Discharge	Discrete
Temperature	33°C	37°C	Continuous	Recorder
Total Dissolved Solids (allowable increase above BMI water supply) ²	1,000 lbs/day	175 tons/year (annual aggregate)	Once/Discharge	Discrete
Total Perchlorate, mg/L	Monitor & Report		Once/Discharge	Discrete

Outfall 001: Stormwater Discharges³

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, gallons	Monitor & Report		Continuous	Recorder
pH, Standard Units	Monitor & Report		Once/Discharge	Discrete
Total Suspended Solids, mg/L	Monitor & Report		Once/Discharge	Discrete
Chemical Oxygen Demand, mg/L	Monitor & Report		Once/Discharge	Discrete
Oil & Grease, mg/L	Monitor & Report		Once/Discharge	Discrete
Nitrate & Nitrite (as N), mg/L	Monitor & Report		Once/Discharge	Discrete

Ammonia (as N), mg/L	Monitor & Report	Once/Discharge	Discrete
Total Phosphorus (as P), mg/L	Monitor & Report	Once/Discharge	Discrete
Total Dissolved Solids, mg/L	Monitor & Report	Once/Discharge	Discrete
Total Perchlorate, mg/L	Monitor & Report	Once/Discharge	Discrete

Table Notes:

- (1) The total non-storm flow for each month shall be reported.
- (2) The BMI water supply to Tronox and the flow discharged from Outfall 001 shall be individually sampled to determine the net increase of Total Dissolved Solids from the facility.
- (3) A storm water discharge event is defined as the period between the onset of measurable precipitation and the cessation of flow at monitoring points that are known to convey storm water runoff. The total flow from Outfall 001 for each storm water discharge event shall be reported (include date of event and the flow amount).

Outfall 002: Non-Stormwater Discharges

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, gallons ¹	Monitor & Report		Continuous	Recorder
pH	Between 6.5 to 9.0 Standard Units		Once/Discharge	Discrete
Temperature	33°C	37°C	Continuous	Recorder
Total Dissolved Solids (allowable increase above BMI water supply) ²	1,000 lbs/day	175 tons/year (annual aggregate)	Once/Discharge	Discrete
Total Perchlorate, mg/L	Monitor & Report		Once/Discharge	Discrete

Outfall 002: Stormwater Discharges³

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, gallons	Monitor & Report		Continuous	Recorder
pH, Standard Units	Monitor & Report		Once/Discharge	Discrete
Total Suspended Solids, mg/L	Monitor & Report		Once/Discharge	Discrete
Chemical Oxygen Demand, mg/L	Monitor & Report		Once/Discharge	Discrete
Oil & Grease, mg/L	Monitor & Report		Once/Discharge	Discrete
Nitrate & Nitrite (as N), mg/L	Monitor & Report		Once/Discharge	Discrete
Ammonia (as N), mg/L	Monitor & Report		Once/Discharge	Discrete
Total Phosphorus (as P), mg/L	Monitor & Report		Once/Discharge	Discrete

Total Dissolved Solids, mg/L	Monitor & Report	Once/Discharge	Discrete
Total Perchlorate, mg/L	Monitor & Report	Once/Discharge	Discrete

Table Notes:

- (1) The total non-storm flow for each month shall be reported.
- (2) The BMI water supply to Tronox and the flow discharged from Outfall 001 shall be individually sampled to determine the net increase of Total Dissolved Solids from the facility.
- (3) A storm water discharge event is defined as the period between the onset of measurable precipitation and the cessation of flow at monitoring points that are known to convey storm water runoff. The total flow from Outfall 002 for each storm water discharge event shall be reported (include date of event and the flow amount).

Outfall 003: Stormwater Discharges

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
pH, Standard Units	Monitor & Report		Once/Discharge	Discrete
Total Dissolved Solids, mg/L	Monitor & Report		Once/Discharge	Discrete
Sulfate (as SO ₄), mg/L	Monitor & Report		Once/Discharge	Discrete
Manganese (Total as Mn), mg/L	Monitor & Report		Once/Discharge	Discrete
Total Perchlorate, mg/L	Monitor & Report		Once/Discharge	Discrete

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications, which the Administrator may make in approving the schedule of compliance.

- a. **Upon issuance of the permit**, the Permittee shall achieve compliance with all discharge limitations;
- b. **Within 90 days of the permit issue date (Month XX, 2007)**, the Permittee shall submit an updated Stormwater Pollution Prevention Plan (SPPP) for the Tronox Henderson, Nevada Facility. The SPPP must include a section on Best Management Practices (BMP) and good housekeeping activities implemented to exclude industrial chemical contaminants from Tronox discharges to the LVW. If no modifications have been made to the SPPP since the last submittal, so state.
- c. **Within 90 days of the permit issue date (Month XX, 2007)**, the Permittee shall submit an updated Operations and Maintenance (O&M) Manual. If no modifications have been made to the O&M Manual since the last submittal, so state.
- d. The Permittee shall submit a report in accordance with the permit condition I.B.1.c., within fourteen (14) days of a compliance date detailing compliance or noncompliance with that date.

Rationale for Permit Requirements

The permit conditions restrict the discharges in this permit to once-through cooling water, Lake Mead raw water

supply pipeline leakage, and stormwater runoff. Any discharge of Tronox process waters to surface waters of the State of Nevada is prohibited under these permit conditions. The monitoring and reporting requirements for Outfalls 001 through 003 are unchanged from the current permit conditions.

Routine monitoring of contaminants such as perchlorate, manganese, and ammonia from stormwater runoff at areas surrounding the production unit buildings is implemented as a means of tracking Tronox's process containment and good housekeeping practices (e.g., Best Management Practices) to ensure the zero-discharge of Tronox process waters to the LVW. TDS loading limits (e.g., material balance of influent vs. effluent waters) were originally established over concerns of salt loading impacts to the Colorado River (Lake Mead). The inlet and outlet TDS for the Lake Mead water supply to Tronox should be unchanged since it is only used as non-process, once-through cooling water with no direct process contact. Provided that good housekeeping is maintained, no pollutants should be transferred to the pipeline leakage water that is collected at the facility and then discharged to Outfalls 001 and 002. The Division established the upper temperature limits for non-stormwater discharges based on additional cooling of the discharged water occurring during overland flow, prior to discharge into the LVW (e.g., 3.0 mile length of conveyance). Specific limits on flow (e.g., gallons/day or gallons/year) have not been established for Outfalls 001 through 003, in part due to the uncertainty in predicting precipitation occurrences and when and where the BMI water supply pipeline will next leak. In 2005, total discharges from Outfalls 001 through 003 averaged 0.046 MGD. 37% of this total flow was from the Lake Mead water supply pipeline leaking and the once through cooling tower water (both raw Lake Mead water) at the Tronox Facility and the balance was stormwater runoff. It should be noted that other BMI Complex facilities also discharge the same water leakage from the pipeline since it is a common supply line for all of the BMI facilities and its condition is reflective of the WWII-era construction of the BMI Complex.

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